

NOAA REPORT



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Innovative Chesapeake Bay Study:

NOAA's Coastal Ocean Program has awarded a team of researchers \$650,000 to study effects of multiple environmental stressors on the Patuxent River Estuary in the Chesapeake Bay. The grant is for the second year of a projected six-year, \$6 million study.

The Patuxent study, led by Dr. Denise Breitburg of the Academy of Natural Sciences' Benedict Estuarine Research Laboratory in St. Leonard, Md., is designed to look at how all of these stressors interact to impact a single coastal

News Briefs

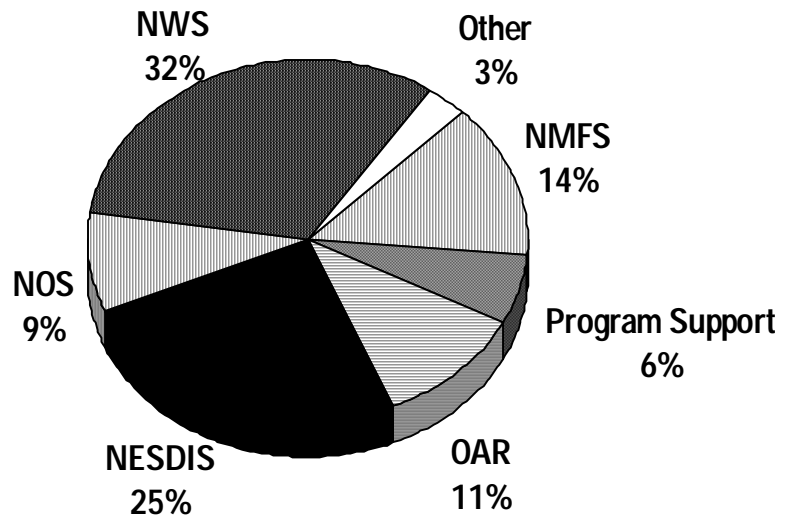
ecosystem. This award represents half of the anticipated COP funding for the project in FY 1996.

"NOAA is happy to continue its support of this important project. The research that is being led by Dr. Breitburg is innovative and has the potential to yield answers to some of the important resource management questions in the Chesapeake Bay. Because findings in this study will be useful for managing other coastal water bodies and because the study draws upon the resources of many participants, it is a model of a cost-effective way of using science to address the nation's high-priority coastal problems," said Donald Scavia, director of the Coastal Ocean Program.

It's Only Natural: Much of the northern and eastern tier of the United States

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FY 1997 Budget Request



NOAA's FY 1997 budget request of \$2.1 billion "must be accompanied by the requirement to be more effective, to identify and realize opportunities for savings and to focus the efforts of government on what matters to people," said NOAA Administrator Dr. D. James Baker.

\$2.1 Billion Request is \$173 Million Over Continuing Resolution

'97 Budget Shows 'Strong Environmental Commitment'

President Clinton has proposed a \$2.1 billion budget for NOAA for the upcoming fiscal year, an increase of more than \$173 million over the amount currently available under the present Continuing Resolution.

In meetings with the press and NOAA constituents, NOAA Administrator Dr. D. James Baker outlined the 1997 fiscal year's NOAA budget, which he said represents the Administration's strong commitment to environmental issues, particularly

in these times of shrinking government outlays.

The budget, he continued, ensures that NOAA's programs like weather service modernization remain on track, strongly supports efforts to restore and maintain America's fisheries, and continues NOAA's investment in high performance computing for advancing weather forecasts and for climate and global change research.

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Efforts Will 'Increase Equity' at Agency

Diversity Plan Seen as 'Positive': Survey

A clear majority of all NOAA employees are aware of NOAA's diversity action plan, and a plurality of all groups believe NOAA's diversity efforts will "increase equity" at the agency, according to preliminary results from the diversity survey sent out to all NOAA employees last Fall.

The NOAA Diversity Council is viewing the survey as an educational tool, to make employees aware of diversity, and as a gauge of workers' feelings about workplace diversity.

Diana H. Josephson, Deputy Under Secretary for Oceans and Atmosphere, said that more than a quarter of NOAA's workforce responded to the survey. "The NOAA-wide diversity survey had an outstanding response rate of 26.6%. This data is providing valuable information on knowledge of, and attitudes about, diversity within NOAA. The knowledge gained from this survey will aid the Diversity Council in its role of advising managers on areas where the need for education or training exists."

The diversity survey results are a snapshot of how diversity is viewed among NOAA employees and their attitude toward it.

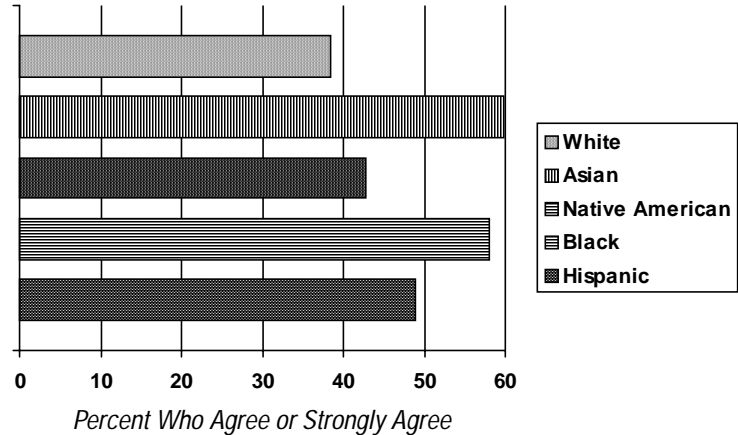
The survey found that generally among all grade levels most NOAA employees are aware that the agency has initiated a diversity action plan. For example, 60 percent of respondents from grades 1 through 4 said they are aware of the action plan, and nearly 96 percent of those in grades 15 and above said they know of NOAA's plan.

The survey found that many minorities feel that they are not getting promoted. However, more than 40 percent to about 60 percent of the various minority groups responding to the survey agree that there is a difference between diversity and affirmative action and that diversity will increase equity at NOAA.

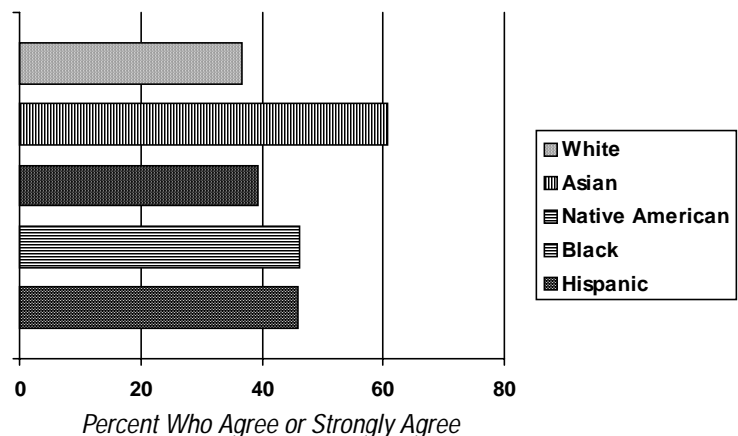
The next steps are to analyze the results of the survey further and to prepare a report for NOAA employees that fully defines the findings and use them as a basis for increasing diversity within the agency.

—Greg Hernandez ☺

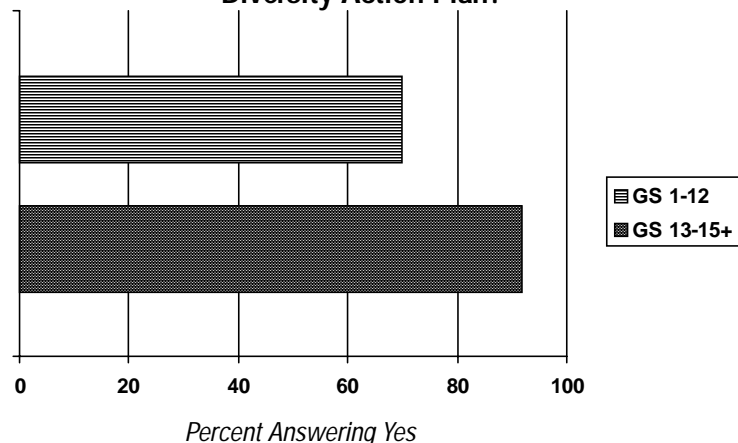
Implementation of the Diversity Plan Will Make a Positive Difference at NOAA



Diversity Efforts Will Increase Equity at NOAA



Were You Aware That NOAA Has Initiated a Diversity Action Plan?



Winter Snow Melt Reduces Spring Flooding Potential

With most winter snow already melted in many parts of the country, serious flooding is unlikely for most of the United States this spring, according to the National Weather Service.

The current outlook could change, however, if there is substantial rainfall over the next month.

"The areas of highest risk for spring flooding include portions of the Southeast, the upper peninsula of Michigan, northern Wisconsin and

Minnesota, and the drainages in eastern North Dakota. In the West, concern focuses on an area along the Montana-Idaho state line extending into northwestern Wyoming, and including most of Idaho, northern and western Nevada, the Sacramento and San Joaquin River drainages in California, and the Okanagan region in north central Washington. However, extreme flooding would only occur if these regions experienced significant rainfall," said Frank Richards, director of NOAA's National Hydrologic Information Center.

October and November were quite wet in Oregon and especially in Washington. This wet period culminated at the end of November in severe flooding along the coastal portions of the Pacific Northwest. While flooding decreased by mid-December, conditions remained wet. In early February, a surge

of warm, moist air brought another round of widespread severe flooding in the western portions of Washington and Oregon, with a number of locations reporting record high river levels.

The risk of spring flooding on the eastern seaboard is lower than normal because snow from January's blizzard largely melted off. The Blizzard of '96 concluded a prolonged period of heavy snow and very cold conditions in the Northeast. However, less than two weeks after the storm had paralyzed much of the eastern seaboard, substantial portions of the deep snow cover were gone.

The NOAA 1996 Spring Hydrologic Outlook is available on the Internet's World Wide Web at <http://hsp.nws.noaa.gov>. ☺

McPherson Elected AMS Head

Ronald D. McPherson, director of the National Weather Service's National Centers for Environmental Prediction (NCEP), has been elected President of the American Meteorological Society (AMS). He will serve as president-elect for one year prior to assuming the presidency in 1997.

McPherson has been a member of the AMS for 37 years, and was chosen as a Fellow of the AMS in 1992, an honor given to members of the society who have made significant contributions in their profession.

"Ron's vast experience in meteorology, as an observer, a forecaster, a researcher, and a policy maker, will be a great asset to the AMS," said Richard Hallgren, executive director of the AMS. "He is the ideal choice."

During his 37 years with the National Weather Service, McPherson has received several commendations. Most notably, President Clinton awarded him with the Presidential Rank Award in 1993, and in 1995 he received the Distinguished Executive Service Award for his outstanding performance and dedication to public service. ☺

Chief Scientist Leaves for Ohio Museum Post

Kathryn Sullivan, NOAA's Chief Scientist, is leaving her position to become president of Ohio's Center of Science and Industry (COSI), a science education center and museum in Columbus, Ohio. Her last day at NOAA was March 29.

Sullivan, the first American woman to walk in space, as part of a space shuttle mission in 1984. She was confirmed by the Senate as NOAA's chief scientist during the Clinton Administration.

At COSI, Sullivan will lead the construction of a new state of the art science museum. She will manage the activities and programs at COSI, and oversee the development of a second COSI site in Toledo, Ohio.

A 1973 graduate of the University of California at Santa Cruz in earth science, Sullivan received her doctorate in geology from Nova Scotia's



Kathryn Sullivan, NOAA chief scientist, is leaving the agency to become president of an Ohio science education center.

Dalhousie University in 1978. Her three space shuttle missions included flights aboard the *Challenger* in 1984, *Discovery* in 1990 and *Atlantis* in 1992. ☺

Focus On...

NOAA's FY 1997 Budget Request

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Commitment to Strategic Investing

"This budget represents a commitment to the challenge of investing strategically in the Nation's future," Dr. Baker said. "This must be accompanied by the requirement to be more effective, to identify and realize opportunities for savings and to focus the efforts of government on what matters to people."

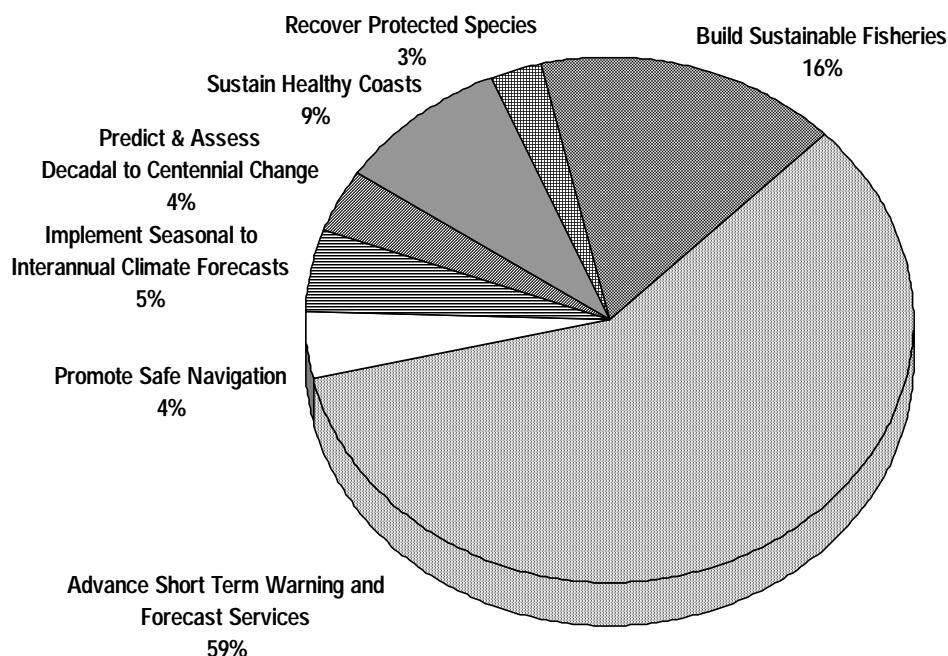
Secretary of Commerce Ronald H. Brown called the budget request "a clear demonstration of the Clinton Administration's commitment to environmental stewardship and sustainable development...in these challenging budgetary times."

"NOAA programs and services touch virtually every American everyday," Brown added, "and provide an excellent investment of tax dollars for the environmental information and technologies we'll need in the future to ensure the continued economic security and safety of our citizens."

Like last year's budget proposal, the NOAA FY 1997 budget was computed in two ways—according to the agency's Strategic Plan goals, as well as by line and program office.

More than half of the budget, which was released on March 18, is slated to support the Strategic Plan goal of Advancing Short Term Warning and Forecast Services. Over 90 percent of this \$1.26 billion line, which will assist in the completion of the

Budget Request: Strategic Plan Objectives



Like the FY 1996 budget request, the just released budget proposal describes NOAA's plans according to both the traditional line office structure (see chart, page 1) as well as the goal-based approach of the Strategic Plan (chart above).

weather service's modernization efforts, and to maintain critical weather satellite coverage, shows NOAA's strong commitment to state of the art weather services for the Nation. NWS will receive 52 percent of these funds, with NESDIS's portion set at 39 percent.

Another substantial portion of the budget, nearly \$320 million, will go to the Strategic Plan goal of Building Sustainable Fisheries. NOAA's protection of the Nation's commer-

cial fisheries, along with its aim of Sustainable Development, will be funded by this element. Forty-eight percent of this will be allocated for assessing the status of fishery resources to improve the science behind fisheries policy decisions. Managing the fisheries for economic growth—developing plans to reducing excessive fishing and capital investment—will be allotted 26 percent. NMFS will receive the bulk of these funds, 71 percent.

Other Strategic Plan goals also received funding:

- ☐ Implementing Seasonal to Interannual Climate Forecasts: \$116.5 million (OAR, NESDIS and NOAA's Climate and Global Change Program participating);
- ☐ Predicting and Assessing Decadal to Centennial Change: \$92.2 million (OAR and NOAA's Climate and Global Change Program participating);


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- ☐ Promoting Safe Navigation: \$89.9 million (NOS participating);
- ☐ Recovering Protected Species: \$65.7 million (NMFS participating);
- ☐ Sustaining Healthy Coasts: \$186.9 million (NOS, OAR, NMFS and NOAA's Coastal Ocean Program participating).

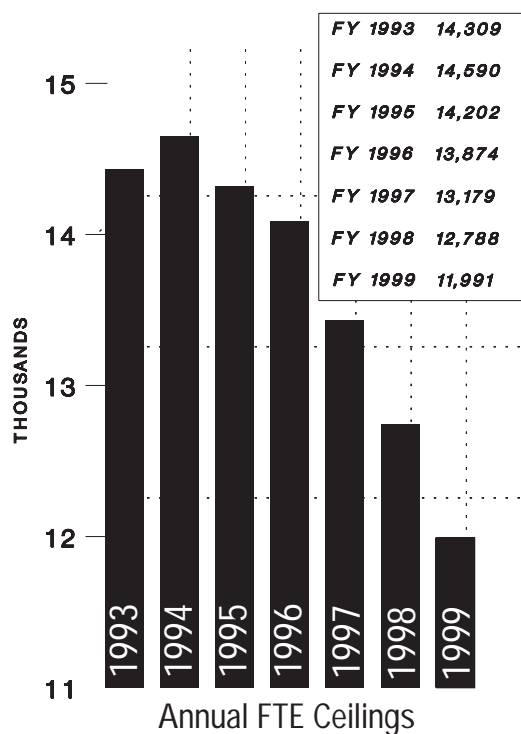
"Budget constraints mean that many Federal agencies will encounter dramatically fewer dollars and people, yet still face equal or greater challenges," said NOAA Administrator D. James Baker in the budget's Executive Summary. "...In such an environment, agencies must affirm their mission, discontinue doing things which are not a Federal role, or find more effective ways to conduct work.

For NOAA, change presents challenge, and challenge creates opportunity. The...NOAA budget addresses both."

Among the budget savings NOAA proposes are the closing of about 200 NWS field offices; privatizing specialized weather services; merging civilian and defense weather satellites systems; and streamlining personnel. By 1999, NOAA expects to reduce its workforce by 16 percent from 1993 levels, eliminating 2,318 full-time equivalents. Approximately 74 percent of the total staff cut will come from administration and supervisory categories.

The Executive and Budget summaries of the budget request, and the entire 115-page budget document are available on-line through the Internet at NOAA's World Wide Web site, <http://www.noaa.gov>. 

NOAA Streamlining Plan



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Undersea Volcanoes Off Oregon Studied

Scientists aboard the NOAA ship *McArthur* have observed suspected undersea volcanic activity off the northern Oregon coast that could provide unique insights into the process of seafloor volcanism.

This is only the second time scientists have been able to reach an area of suspected activity while it was still in progress.

Just in the past several years have scientists discovered that there is a diverse community of bacteria and viruses that live in hot magma below the seafloor—a discovery equivalent to finding life on another planet. Some of these microorganisms, which are carried to the seafloor surface through vents created by eruptions, have biological characteristics that make them very useful to the multimillion dollar biotechnical industry for biochemical, biotechnical and pharmaceutical applications.

NOAA scientists are also studying deep ocean volcanic activity because the heat and chemicals injected into the oceans by eruptions have significant, but as yet unquantified, impacts on the global ocean environment.

NOAA and university scientists aboard the *McArthur* made conductivity, temperature and depth measurements of hydrothermal venting at the site 100 miles off the Oregon coast in waters almost two miles deep from March 9 through 13, when bad weather ended operations. The ship returned to its base, NOAA's Pacific Marine Center in Seattle, on March 14.

On March 11, scientists detected, sampled and mapped the first of several "megaplumes" of hot water rising from what is believed to be a major volcanic eruption on the

underwater Gorda Ridge.

A second ship, the National Science Foundation research vessel *Wecoma*, will be dispatched to the site in early April for further investigations that may confirm a volcanic eruption using towed underwater cameras and other instruments.

Although deep-sea volcanic eruptions account for more than 80

percent of the earth's volcanic activity, NOAA's recent use of the Navy's submarine detection system is the only way to determine when underwater eruptions are occurring. In June 1993, NOAA scientists were the first to detect, locate and measure a seafloor eruption, which occurred 270 miles off the northern Oregon coast in June 1993, a feat that until now had never been duplicated. ☺

McArthur Answers Volcano's Call

For a week, scientists with NOAA's Pacific Marine Environmental Laboratory listened to signals reaching them through the Navy's SOSUS hydrophone array. By Saturday, March 2, they were sure that these sounds originated from an undersea volcano off the Oregon coast. Their need for a ship became critical.

PMEL called nearby Oregon State University, home of R/V *Wecoma*, but learned that neither *Wecoma* nor any other UNOLS ship was available or even in the area. Charter vessels of sufficient size, and with suitable oceanographic capability, were also nowhere near. Late Saturday night the Vents scientists called the NOAA Corps' Pacific Marine Center.

The NOAA ship *David Starr Jordan* was the nearest underway vessel, and had the capability to do the job. Unfortunately, prior commitments to the National Marine Fisheries Service could not be postponed, and on Sunday, March 3, *David Starr Jordan* was ruled out.

On Monday morning, March 4, attention turned to NOAA Ship *McArthur*, which lay alongside in Seattle for routine winter repairs. *McArthur's* commanding officer responded affirmatively and, by that afternoon, had posted the sailing board for Thursday, March 7. *McArthur's* crew began feverish preparations to complete repairs and put to sea. What had, at first, seemed impossible now became a concrete plan for getting scientists and instruments on site in time to obtain samples of the volcanic discharge.

The magnitude of this opportunity can hardly be overstated. Vast communities of strange organisms have recently been found living under the seafloor. In the words of Dr. Stephen Hammond, Division Leader of PMEL's Ocean Environmental Research Division in Newport, Oregon, this discovery is "basically the same as finding life on another planet." Where, until recently, no one thought to find anything other than minerals, researchers now face a whole new biosphere—one which can be viewed in a unique fashion through the obscure lens of an active undersea volcano. In addition, the chemical and heat contributions to the ocean from eruptions such as this are not yet quantified. ☺



The NOAA Ship *McArthur* sails into Seattle harbor after its emergency voyage to the undersea volcano site off Oregon.

NCEP Satellite Link Lets Students Visit Without Leaving Classrooms

On April 26, elementary school students from across the Nation will visit the heart of the National Weather Service's forecast operations and a Washington, D.C. television weather studio while remaining in their classrooms.

The children, all in grades 3 through

7 will take a satellite field trip to interact live with National Weather Service meteorologists at the National Centers for Environmental Prediction (NCEP) in Camp Springs, Md., and the WRC-TV Weather Center in Washington, D.C.

Students will be transported through satellite feeds and telecommunica-

Contest Put Focus on Women

Students Honored for Winning Essays

Ten Washington, DC-area students were winners in the third annual NOAA Dr. Martin Luther King Jr. Essay Contest. The theme of this year's contest, which was open to seventh, eighth and ninth grade students, was *Women: Yesterday, Today and Tomorrow*.

In her keynote speech, Diana Josephson, Deputy Under Secretary for Oceans and Atmosphere, highlighted accomplishments of a number of women from the past, such as aviator Amelia Earhart, educator Mary McLeod Bethune, civil rights pioneer Rosa Parks and

U.S. Supreme Court Justice Sandra Day O'Connor. She further identified herself as "a woman of today and tomorrow" and said that her vision of the 21st century included women as "guardians of the Amazon rain forest, designers of interstellar starships, and trailblazers in cancer and AIDS research." She strongly encouraged this generation "to become pioneers for tomorrow."

Each school could submit up to 10 of their student's best essays. A panel of NOAA employees judged the

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The satellite field trip to NCEP will also be available to the public at WeatherNet4, the WRC-TV Internet web site, <http://wxnet4.nbc4.com>.

tions lines to the operational floor of the NWS's World Weather Building in Camp Springs, Md., the world's largest weather computing complex, where meteorologists prepare short-term forecasts for the Nation, and to the television studio. Students will spend an hour learning about the science of weather forecasting and the forecasting operations at both the National Weather Service and the television studio. They'll also have the chance to ask meteorologists questions about studying and understanding the weather.

The field trip, "Meteorology: Winds of Change," is sponsored by the Prince William Network, a component of the public school system in Prince William County, Va. The network offers students across the United States the opportunity to experience locations they may otherwise never have the chance to visit. Satellite field trips are scheduled to areas around the country where students interact with experts in various fields.

"This is a wonderful opportunity for the National Weather Service to begin educating students about advancements in weather forecasting and career opportunities in science," said Susan Zevin, deputy director of the National Weather Service and a panelist for the field trip. "We look forward to the opportunity of interacting with the children and showing them our enthusiasm for providing first-class weather services *continued on page 8*



Presenters and winners of the NOAA Martin Luther King Jr. awards pictured above were (left to right) Gloria Walker, NWS; Samuel Neal; Amber Lofton; Juan Juan Yuan; Navin Mahadevan; Vianca Hyles; Lindsey Kell; Shara Hammond; Stephanie Berard; Brad Walker; Deborah Oslik; and Barbara Tobe, NWS.

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experienced near-record or record snowfall and extreme cold this winter, while areas of the Pacific Northwest were affected by severe flooding twice, and the southwestern and south-central states were abnormally dry and warm, according to a Special Climate Summary released by NWS's Climate Prediction Center. These weather patterns were in many respects opposite to those observed during the 1994-95 winter season.

"A contributing factor to the differences between the two winter seasons was a transition from El Niño to La Niña in the tropical Pacific," said Gerald Bell, weather service meteorologist. "Another major contributor to these differences is simply the natural, short-term climate variability of global weather patterns."

News Briefs

50 Years of Service: Dick Davis, the data administrator at the National Climatic Data Center in Asheville, N.C., has been honored for 50 years of government service. "It is indeed an honor to work with Dick Davis," said Ken Hadeen, NCDC's director. "He is an inspiration to all of us and a prime example of government service at its best." Davis's federal career began on July 4, 1945, when he was sworn into the U.S. Navy. The following year, Davis began his civilian career as a plotter with the then-U.S. Weather Bureau in Washington, D.C. He transferred to the Asheville Center in 1955, when it was called the National Weather Records Center. Davis has received various honors throughout his career, including the Department of Commerce Bronze Medal in 1972 and the Silver Medal in 1986. ☺

NCEP Satellite Link Lets Students Visit Without Leaving Classrooms

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to the United States."

The field trip, co-hosted by an elementary school student and Bob Ryan, a local Washington, D.C., television weathercaster and former president of the American Meteorological Society, will begin with a historical perspective on weather forecasting, teaching students that the ability to accurately forecast weather is a fairly modern technology. The hosts and James Hoke, director of the NCEP's Hydrometeorological Prediction Center, will take the students on a virtual tour of operational area to highlight the various tools and technologies used in modern forecasting.

The students will continue their educational experience at NCEP by

King Essay Winners

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essays and \$200, \$100 and \$50 U.S. Savings Bonds were presented to each First, Second and Third Place winner at an awards ceremony which was held at NOAA's Silver Spring Metro Center campus in February.

Barbara Tobe, NWS African American Program introduced the speakers and presenters, including Alfred A. Corea, director of NOAA's Civil Rights Office, NWS Deputy Assistant Administrator Susan Zevin, NMFS EEO Program Manager Natalie Huff, and NWS EEO Program Manager Gloria J. Walker.

NOAA continues to provide enthusiastic support of the Martin Luther King, Jr. Essay Contest and similar programs. NOAA Administrator Dr. D. James stated that the "Students...submitted inspiring essays....We in turn were impressed by these leaders of tomorrow." ☺

watching science teacher Chuck Drake present animations and live demonstrations of how the oceans and atmosphere influences the Earth's weather. At each participating school, teachers will be equipped with guides to help students prepare for the field trip as well as engage in classroom activities following the event so that the children will better understand weather and how it is forecast.

The session will wrap up with Dr. Zevin explaining how National Weather Service forecasts are passed on to the public and the direction the Weather Service is taking for future improvements in weather forecasting.

"We want the students to walk away with an understanding of how weather and flood observations are collected, how forecasts are made and disseminated to them in their homes and schools and what the future holds for meteorology," added Zevin. "It is great we accomplish all this without the students having to leave the classroom."

—Kim Comba ☺

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Address comments to:

Editor

NOAA Report

Office of Public and Constituent Affairs
14th St. & Constitution Ave. NW
Room 6013 HCHB

Washington, DC 20230-0001

202-482-6090 (voice)

202-482-3154 (fax)

Banyan E-Mail: jerrys@pa@noaa

Internet: jsaff@hq.noaa.gov

CompuServe: 70762,3151

Lori Arguelles ... Director, Office of Public & Constituent Affairs

Jerry Slaff Editor